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Technical Report 5-34731
Contract No. DAAH01-92-D-R006
Delivery Order No. 121

**Research and Evaluation of
Modernization Through Spares**

(5-34731)

Final Technical Report for Period
20 March 1997 through 20 August 1997

August 1999

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Prepared for:

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Redstone Arsenal, AL 35898
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PREFACE

This technical report was prepared by the staff of the Research Institute, The University of Alabama in Huntsville. The purpose of this report is to provide documentation of the work performed and results obtained under Delivery Order 121 of MICOM Contract No. DAAH01-92-D-R006. Mr. Gary Maddux was the principal investigator. Mr. Terry Mullins, Industrial Operations Division, Systems Engineering and Production Directorate, Research, Development, and Engineering Center, U.S. Army Missile Command, provided technical coordination.

The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy, or decision unless so designated by other official documentation.

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Prepared for: Commander
U.S. Army Missile Command
Redstone Arsenal, AL 35898

I have reviewed this report, dated August 99 and the report contains no classified information.

Gary A. Maddux
Principal Investigator

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1.0 Introduction

The Systems Engineering and Production Directorate (SEPD), Research, Development and Engineering Center (RDEC) at U.S. Army Missile Command (MICOM) was investigating "modernization through spares" initiatives to support advanced missile applications. It was essential that the Army achieve a common understanding of current modernization techniques through a coordinated policy of spare parts and components so that potential applications could be identified and implementation plans could begin.

The Systems Management and Production Laboratory at The University of Alabama in Huntsville (UAH) Research Institute (RI) was tasked to provide engineering support and analytical capability.

2.0 Objective

The objective of this task was to evaluate the methodologies associated with modernization through spares and establish guidelines for achieving the goals of this initiative throughout the Army. This task involved an initial evaluation to establish the state-of-the-art and maturity of modernization processes and procedures, and identification of the key players within DoD, other government agencies, and the defense contractor industry.

3.0 Statement of Work

The statement of work, as outlined in delivery order 121, was as follows:

UAH shall perform an initial evaluation of modernization through spares methodologies developed throughout the Department of Defense. This evaluation will include personal technical interaction with key personnel and companies knowledgeable in the subject of modernization through spares. This evaluation will culminate with recommendations as to the applicability of engineering presentations and interactions to expand the knowledge base related to MICOM activities.

UAH shall develop a database which lists the key personnel and companies knowledgeable in modernization through spares, to include integration methodologies and technology applications related to missile systems. UAH shall survey government, industry and academia to identify key personnel and companies.

UAH shall coordinate and provide administrative support for a detailed technical workshop to present the findings of the above research. On-site support shall include speaker coordination, audio/visual support, proceedings creation, and all attendee registration activities.

UAH shall perform a preliminary investigation prior to Paragraph 2.3 (the above paragraph) to determine the impacts of dimensioning manufacturing sources and material shortages (DMSMS) on the modernization through spares concept. This investigation will include the coordination of and participation in a detailed workshop with the project offices, contractors, and other DoD agencies.

4.0 Description of Workshops

The work performed on this task led directly to the Workshop on Modernization Through Spares, which was held at the Sparkman Center Auditorium on May 28-29, 1997. The objective of this workshop was to review the progress of the modernization through spares initiative. The scope of the workshop included value engineering, OSCR, CTIP, commercialization, specs and standards, design criteria, logistics sustainment, parts obsolescence and CAIV. MICOM was the primary sponsoring agency of this workshop. A Workshop Proceedings was delivered to the Government and all attendees on CD-ROM.

5.0 Conclusion and Recommendations

During the time frame allocated by the delivery order, members of the UAH Applied Research Program, with the cooperation of representatives from MICOM SEPD, performed an analysis and evaluation of the modernization through spares initiative. Results of these efforts were presented at a locally held workshop. Detailed findings can be found in the proceedings of that workshop, which was compiled by UAH and delivered on CD-ROM.